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**FEED-FORWARD COMPENSATION OF CAGE FREQUENCY**  
**USING A REFERENCE HEAD IN A SERVO-WRITER**

**Abstract of the Disclosure**

5           A system, modules, means, and computer readable media for and a method of  
compensating disturbances that cause track shape irregularities on a disc in a disc drive  
during a disc servo-writing process performed by a servo-writer are disclosed. The  
disturbances substantially attributable to a nonrepeatable runout (NRRO) are present during  
the servo-writing process. A substantial component of the NRRO is a cage frequency  
10       generated by a spindle motor mechanism in the disc drive. A reference cage frequency is  
determined during a servo-writing process by using a position sensor. Then a feed-forward  
input signal is determined based at least on the reference cage frequency during the servo-  
writing process. In addition, the feed-forward input signal is feed-forwardly transmitted to  
the servo-writer. In the servo-writer, the feed-forward input signal is utilized to substantially  
15       reject disturbances that cause the track shape irregularities while the servo-writing head  
electrically connected to the servo-writer is writing servo patterns on a user track during the  
servo-writing process.

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